

A NEW EASTERN UNITED STATES *PSALLUS* FIEBER
(HETEROPTERA: MIRIDAE) FROM
PHYSOCARPUS (ROSACEAE)

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Abstract.—*Psallus physocarpus*, n. sp., is described from New York and Pennsylvania on *Physocarpus opulifolius* (L.). Photographs of the adult female and figures of male genitalia are provided. Characters are given to separate *P. physocarpus* from *P. amorphae* Knight, its nearest known relative.

The following new species of phyline mirid is described to provide a name to be used in a forthcoming paper on the insects associated with ninebark, *Physocarpus opulifolius* (L.) Maxim. (Rosaceae), by A. G. Wheeler, Jr., Pennsylvania Department of Agriculture, Harrisburg (PDA), and E. Richard Hoebeke, Department of Entomology, Cornell University, Ithaca, N.Y.(CU).

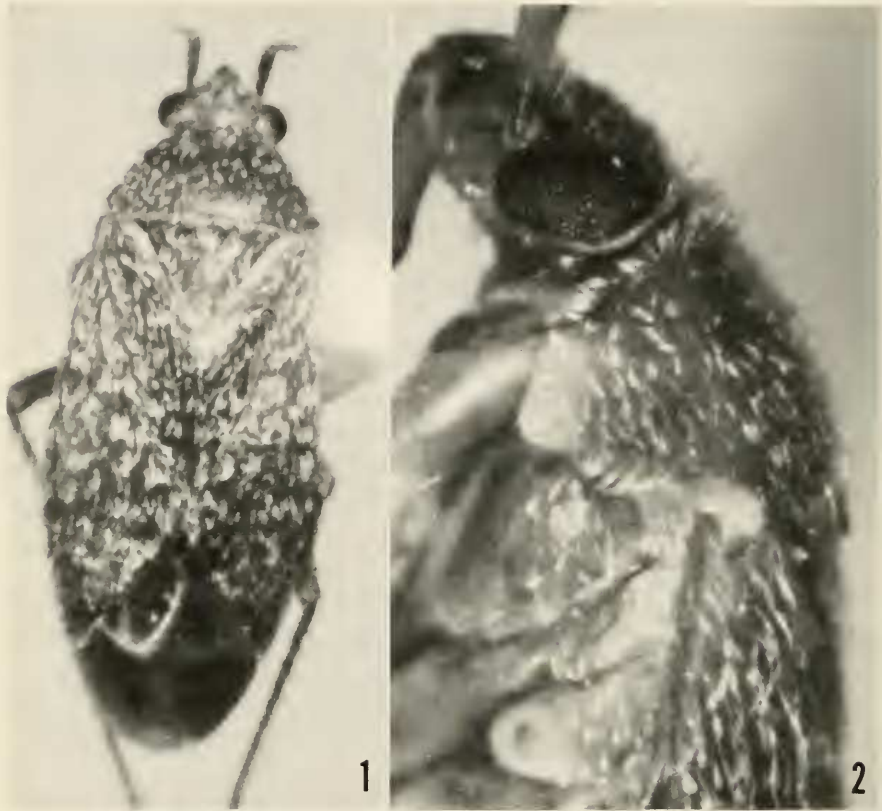
The genera *Plagiognathus* Fieber and *Psallus* Fieber are in great need of revision in North America. The generic limits, as defined by Knight (1941), are often difficult to interpret, with only the type of pubescence on the propleura "clearly" separating them (simple setae vs. sericeous or scalelike setae, respectively). Several species of *Psallus* have body forms remarkably similar to *Plagiognathus* and, if rubbed, are impossible to separate from the latter, viz. *Psallus parshleyi* Knight. Male genitalia seem to offer good specific differences and may prove valuable for separating the two genera or, at least, species groups within them; female genitalia are extremely simplified and only appear to confirm that the two taxa are closely related.

In this paper, I describe the new species *physocarpus* in the genus *Psallus* as characterized by the strongly flattened scalelike setae on the propleura and dorsum. Photographs of the dorsal and lateral views of the adult and figures of male genitalia are provided to facilitate recognition.

Psallus physocarpus Henry, NEW SPECIES

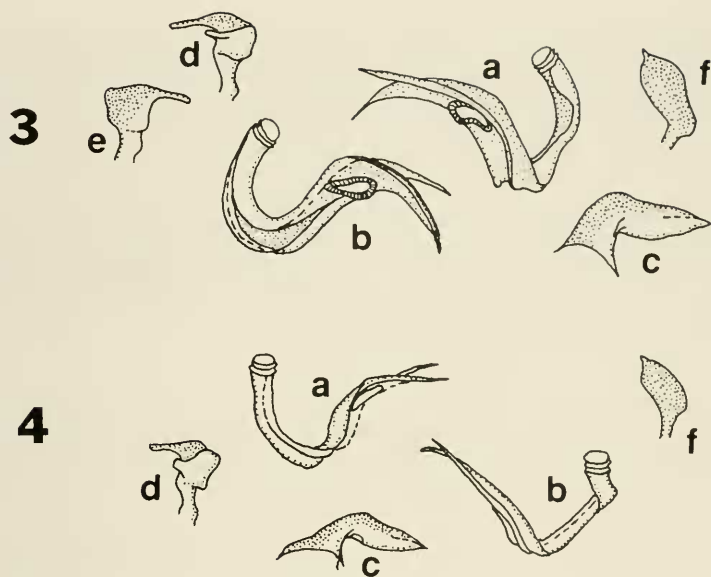
Figs. 1-3

Holotype male.—Length 3.36 mm (range of lengths and average length for paratypes: 3.28-3.60 \bar{x} = 3.42, n = 10), width 1.40 mm. *Head*: Width



Figs. 1-2. *Psallus physocarpi*, adult female. 1, Dorsal aspect. 2, Lateral aspect.

0.68 mm, vertex 0.32 mm, uniformly shiny black, posterior edge of vertex pale, thickly clothed with silvery flattened setae. *Rostrum*: Length 1.64 mm, uniformly fuscous, reaching beyond metacoxa to 3rd abdominal segment. *Antennae*: I, length 0.28 mm, uniformly black with 2 erect bristlelike setae near apex; II, 0.94 mm, yellowish brown or testaceous, fuscous at base (0.14 mm); III, 0.70 mm, testaceous; IV, 0.44 mm, testaceous. *Pronotum*: Length 0.56 mm, basal width 1.08 mm, black, thickly clothed with silvery flattened setae, intermixed with recumbent silvery, simple setae; mesoscutum and scutellum black with similar pubescence. *Hemelytra*: Uniformly fuscous to black, thickly clothed with silvery flattened and simple setae, cuneus less pubescent; membrane black, gradually clearing toward apex, veins pale, adjacent margins and area bordering apices of cunei clear. *Venter*: Uniformly fuscous, ventral margins of propleura and ostiolar openings pale; prosternum, sides of mesosternum, pro-, meso- and metapleura and



Figs. 3–4. Male genitalia. 3, *Psallus physocarpus*. 4, *P. amorphae*. a, Vesica, lateral view. b, Vesica, lateral view opposite side. c, Phallosome. d, Left paramere, lateral view. e, Left paramere, lateral view opposite side. f, Right paramere.

abdomen thickly clothed with silvery flattened setae. *Legs*: Coxae and femora fuscous; tibiae pallid or testaceous with fuscous spines and large fuscous spots at bases; tarsi pale, apices of last tarsal segments and claws fuscous. *Male Genitalia*: Fig. 3.

Allotype female.—Very similar to male only slightly broader in form. Length 3.48 mm (3.32–3.44, \bar{x} = 3.44, n = 10), width 1.44 mm. *Head*: Width 0.70 mm, vertex 0.32 mm. *Rostrum*: Length 1.68 mm. *Antennae*: I, length 0.30 mm; II, 1.00 mm; III, 0.76 mm; IV, 0.36 mm. *Pronotum*: Length 0.56 mm, basal width 1.12 mm.

Types.—*Holotype* ♂: Pennsylvania, Dauphin Co., Middle Paxton Twp., Rt. 443, Fishing Creek Valley School, June 27, 1979, A. G. Wheeler, Jr. coll., taken on *Physocarpus opulifolius* flowers (USNM type no. 76357). *Allotype* ♀: Same data as for holotype (USNM). *Paratypes*: 10 ♂, 4 ♀, same data as for holotype (PDA, USNM); 12 ♂, 14 ♀, Pa., Dauphin Co., Rt. 443, West Hanover Twp., nr. Middle Paxton Twp. line, June 21 and July 3, 1979, T. J. Henry and A. G. Wheeler, Jr. colls., taken on *P. opulifolius* flowers (PDA, USNM); 16 ♂, 25 ♀, New York, Tompkins Co., Ludlowville, Salmon Creek Rd., July 3 and 7, 1979, E. R. Hoebeke coll., taken on *P. opulifolius* flowers (CU, USNM).

Remarks.—This new species is most similar to *Psallus amorphae* Knight

and will key to the latter in Knight (1941: 43). *Psallus physocarpi* can be separated by its larger size (3.3–3.6 mm compared to 3.0–3.2 mm for *amorphae*), by the more strongly flattened scalelike setae, by the longer rostrum that reaches beyond the apices of the metacoxae, and by the male genitalia (Fig. 3). The vesica of *physocarpi* (Fig. 3a–b) is much thicker than that of *amorphae* (Fig. 4a–b) and has the secondary gonopore more heavily ringed. Also, the right arm of the left paramere is slenderly produced in *physocarpi*, whereas the same process in *amorphae* is truncate. Thus far, *P. physocarpi* is known to breed only on *Physocarpus opulifolius*, while *P. amorphae* apparently is restricted to *Amorpha fruticosa* L. (Leguminosae) and only has been taken in Illinois, Iowa, and Minnesota.

ACKNOWLEDGMENTS

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LITERATURE CITED

- Knight, H. H. 1941. The plant bugs, or Miridae of Illinois. Ill. Nat. Hist. Surv. Bull. 22, 234 pp.